B.A.R.C.'s Bark

Volume XXIII - Issue 10 October, 1998

President's Notes

I hope you all got a chance to attend the BARCfest '98 this year. It was a "hum-dinger" as they say out on the prairie. All of the work put in by our BARC and BARC Junior club members to plan and execute this year's event was well worth it. A doff of my chapeau to all of you club members who put in the time and effort to help with this, our major yearly fund-raiser. A special thank you goes to our BARCfest chairman, Dan Wisotzkey, N0NLS who orchestrated this well organized event. We will have a summary of BARCfest presented at this month's BARC meeting.

There was something there for everyone. Whether your interest was 'boat anchors' or the latest in satellite gear, you could find those items and everything in-between being sold, demonstrated, swapped and purchased from the myriad of new and used radio and computer vendor tables in the building.

Outside the building there was the "Funmobile", a virtual 'dream' mobile Ham Shack with the latest in ham gear from ICOM. Pictures of their visit to BARCfest can be found on the ICOM America website.

Two ARES related vehicles were shown also. Outside in the lot, the District 14 ARES group brought their communications trailer and clever portable antennas. Inside, the Boulder County Sheriff's Comm Van demo'd the fixed installations of VHF, Packet and ATV gear that is utilized by BCARES. Thanks to Ed, KB0TVH for running the ATV demo and to Kent, N0XSX for bringing the BCSD Comm Van after working the night before at the CU

(see "Notes" cont. on page 2)

Meeting Minutes

BOARD MEETING

The September Board meeting was held a week earlier than usual because of the change in the date of the General Meeting. The Board met at Jim/N0VLE's house. Also present were Jack/WM0G, Randy/K0RCC, Rip/ NV0M, Dave/ KE0OG, Loretta/ KB0VWW, and Ellie/N0QCX.

Treasurer's Report: We are in good shape considering it is still before BARCfest. Also, John/K0MQ and Gerdie/K0XYL, were on their way to the airport recently to start an island vacation when they got TWO flat tires! But thanks to the autopatch on the repeater, they were able to call for help and get on their way quickly enough that they made their flight. Feeling grateful, John and Gerdie donated $50 to the repeater maintenance fund.

Secretary's Report: The minutes from the previous meeting were read and approved.

Membership Chair's Report: The Club now has 160 members. The membership chair notes it is NOT too early to renew for 1999!

BARCfest report: Things are going along nicely, EXCEPT that there are not yet enough volunteers to help with things such as talk-in, set-up, etc. Randy/K0RCC will send an e-mail broadcast to ask for volunteers, and Dan/N0NLS will start calling people on the phone. BARCfest is the primary fund-raising activity for BARC, and is the main reason we can keep the dues so low while still providing a great autopatch repeater, a content-rich newsletter, picnics, etc. PLEASE do your part and help this one day per year! Also, Randy took an action item to fax press releases about BARCfest to Boulder County newspapers.

Trustee's Report: The repeater upgrade is completed. Among other things, it allows for more automated messages to remind people about upcoming events.

BARC Junior Liaison: Lots of vendors are coming through with prizes for the Youth Forum at BARCfest. A complete list will be published in next month's newsletter.

Old Business: Club QSL cards have been ordered and should be in soon.

Scholarship Fund: Volunteers will be needed to serve on a Committee to set up and run the BARC Scholarship, which was recently approved by the membership. Committee members should not be directly involved in BARC Juniors (e.g., an Elmer), nor have children who would be eligible to receive the award. Contact Jack/WM0G to volunteer.

The next meeting will be Monday, Oct 5 at Randy/K0RCC's house.

(See "Minutes" cont. on page 6)

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---- Serving the Boulder Amateur Radio Community ----

Boulder Amateur Radio Club
P.O. Box 17362
Boulder, CO 80308-0362

President - Jack Ciaccia, WM0G
303-665-8037
WM0G@aol.com

Vice President - Jim Layman, N0VLE
303-665-2711
jim.layman@noaa.gov

Secretary and Membership Chairman
Randy Cassingham, K0RCC
303-664-5366
K0RCC@thisistrue.com

Treasurer - Dave Casler, KE0OG
303-665-0510
KE0OG@msn.com

Trustee - Rip Van Winkle, NV0M
303-494-5578
NV0M@ix.netcom.com

BARC Jr. - Ellie Van Winkle, N0QCX
303-494-5578
NV0M@ix.netcom.com

BARCfest - Dan Wisotzkey, N0NLS
303-665-8367
N0NLS@aol.com

Newsletter Editor - Mary Ciaccia
303-665-8037
FAX: 303-666-8613
WM0G@aol.com

BARC Repeater - W0DK
146.700 (-600 KHz offset)
100 Hz PL

BARC 24 Hour Phone Number
303-380-6540

BARC E-Mail Address
BARC@pobox.com

BARC Website
http://www.thisistrue.com/barc.html

Monthly Meetings are held on the Third Tuesday of every month at NIST @ 7:30 PM (unless notified)

("Notes" cont. from page 1)

football game until 1:30 AM!

This year the BARC Board decided to offer a free table to each of the Colorado radio clubs and repeater organizations. A lot of them took us up on our offer and purchased extra tables besides. I hope we continue that offer every year -- the attendance was way up!

The forums were well attended this year too. Our Director, Marshal, AG0X and Vice-Director, Walt, W0CP fielded questions regarding the latest license restructuring proposals at the ARRL forum to a very attentive audience.

The BARC Jr. Youth Forum was a smash hit with the youngsters and their parents, 60 in all, who attended. As one youngster put it -- "I didn't even get bored". Rosalie White, WA1STO from ARRL HQ moderated our BARC Jrs. through their presentations on a variety of ham activities that they spoke about with their wonderful enthusiasm and incredible knowledge. Afterwards, all youngsters in attendance were each presented with door prizes, including a 2M HT! All prizes were donated by the major ham radio manufacturers specifically for this youth forum. More about this forum in next months issue of BARC's Bark.

Another highlight of BARCfest '98 -- Larry Amann, K5TQN-- a ham for 73 years and an educator for most of his 88 years who has been a major supporter of our BARC Jrs. and Youth in Amateur Radio in general was honored by the BARC Jrs. with a plaque for his many contributions to their program. Larry's personal highlight was to finally meet Rosalie White, who has been a long time correspondent and champion on educational matters concerning ham radio and youth with Larry both here and in Florida where Larry and his friends had set up 'radio in the classroom' programs with the schools and teachers in central Florida.

BARCfest '98 was a success indeed!

73, de Jack, WM0G

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Editor's Corner

Hi all you BARC's Barkers~

Another month has breezed by, filled with lots of activities and ending with the biggest and best event of the year - BARCfest 1998. I had the pleasure of attending and photographing all those in attendance at the BARC Jr. Forum.

It was refreshing to see the bond of commonality - amateur radio - pulling the generations together. At a time in our country when the youth of America seem to be troubled, I witnessed a common ground in the channeling of amateur radio and the bridging of generations. I can only hope that the example that our BARC Jr.s have set at the Youth Forum, will establish a precedent for other clubs to form youth groups.

Communication is the biggest factor in our relationships with each other and with the youth of today. Amateur radio not only provides that venue, these kids also develop a great education in geography, physics and practical engineering far beyond that which they could ever achieve in the classroom. And, because of the common bond in the generations of amateur radio, there is a mutual respect for each generation. To see an 88 year old man and an 8 year old sharing the same interests and enjoying each others company says a lot to me for the future of amateur radio. We need more of these common bonds and interests in the family unit of today. A child is shaped at the very start of life by the values of certain adults so it is up to us, as the most important influences in their lives, to set the best examples that we can and to be interested and interesting.

See you all next month. Hope everyone gets out to see the fall foliage and enjoys the festivities that October brings.

73 & 88, Mary

To submit items for the BARC's Bark newsletter send them to: Mary Ciaccia at PO Box 21362, Boulder, CO 80308 - 4362 or Fax them to (303) 666-8613 or EMail them to:
WM0G@aol.com.
Articles need to be to the editor by the end of the month. Please be sure to put your name at the top of the article. -- ***ed.***

Yap Yap "The Voice of BARC Jr."

BARC Jr. Officers
July - December 1998

President - Tyler, KB0SHT

Vice President - Chapman, KB0PON

Secretary - Walt, KC0BPC

Co-Treasurers - Crystal, KI0NR & Amory, KC0BPB

Young Hams Net

Sundays at 7:00 PM
146.700 (-600KHz 0ffset)

DF Antenna for Fox Hunts

Story by David, KC0DDR (age 9) with details from his dad, Steve (no call sign yet)

I wanted a DF antenna for the August 8th BARC Jr. annual fox hunt and picnic. The picnic is held up in the mountains on some land owned by the family of one of the BARC Jrs. I had gone on several fox hunts at Rip and Ellie's with BARC Jr. already but I wasn't very good at finding the fox with body shielding.

I received my first copy of the schematic from Rip when I started BARC Jr. about one year ago. The schematic (Fig. 1) was created by Dave, KI0HG and modified by Rip, NV0M. I wanted to build it right away but since I didn't have my license yet my dad wasn't interested in helping. I stayed interested in building one but I couldn't get my dad interested in helping until the month before the picnic.

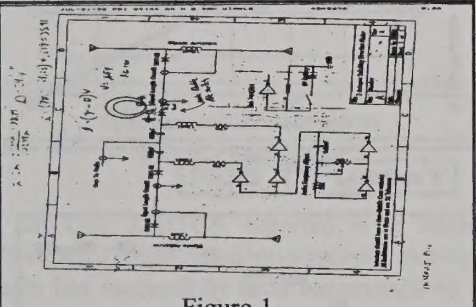


Figure 1

Here's how we built it. My dad drew some pictures that told me what to do. I did most of the work while my Dad was at his office. When I got stuck, I had to wait until he came home.

The first thing I did was cut some wire and bend the ends. One end was bent so a screw could hold it. The other was just folded so that it wasn't too pokey. I had to make sure they were just the right length (19") after I folded the ends. (See figure 2) On the end that had the screw loop, I had to scratch off some insulation. I tried doing this with an Exacto knife and a pocket knife but I couldn't get the insulation off. I ended up using a small file. I cut a 34"piece of 1x2. I screwed the metal wires into the wood spaced apart 24".

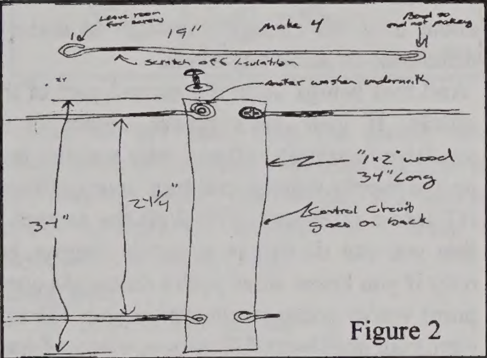


Figure 2

My dad did another drawing (see Figure 3) for the next set of things I needed to do. He hammered some metal posts (wire wrap pins) into the wood for me to solder to. He also had to cut the coax pieces. I soldered on all the components to the posts. I also soldered "solder-wick" to connect the antenna wire to the rest of the circuit. Dad soldered on the coax and the switch. We made our own chokes by winding wire around " diameter resistors (1 watt?) and then putting super glue on them. We didn't have exactly the same components that Dave called out on the schematic. My dad said it didn't matter. The chokes didn't need to be exactly 12 uHs. As much 30 AWG wire as we could wrap on the resistors would be enough. We didn't have the 680 pF capacitors either. Dad looked in his parts bin and came up with some little yellow .01 uF bypass caps that he said would work just as well. We tried some bigger brown 820 pF caps and both types worked. We got the diodes at Radio Shack. We had RG-58 for the coax that goes to the hand held but all of the rest of the coax was some skinny 75 ohm stuff we got from another ham. The switch we got from JB Saunders.

Dad did another drawing (see figure 4 on page 6) for the remaining circuit that I put on the other side of the wood. Once again dad hammered in pins for the IC, three resistors, adjustable resistor, cap and two chokes and I soldered them on and tried to connect them with wire. I had a hard time with the IC pins because they were too close together. Dad helped on that part. We didn't finish until the morning of the picnic. I tested it on our driveway by "finding" 146.7.

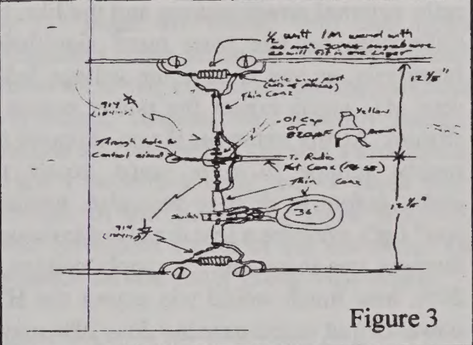

½ watt 1M wound with as much 30 AWG magnet wire as will fit in one layer
12⅛"
Thin Coax
Yellow
.01 Cap or 820pF
Through hole to Control circuit
To Radio
Fat Coax (RG 58)
Thin Coax
Switch
36"
12⅛"

Figure 3

After we got up to the picnic we had lunch. While we ate, Dave, KI0HG and Crystal, KI0NR set the fox. Most of the others started out ahead of us. Once we got up where all the rocks were, we stopped to play with the antenna while all the others wandered ahead of us. A bunch of them had talked about reflections off the rocks so I climbed to the top of the nearest tall rock and tried theantenna up there. The direction the antenna was telling me to go was completely different than where the others had gone! I flipped the

(See "DF Antenna" cont. on page 5)

BARC Jr. Calendar

Oct 17 - Field Trip to Assembly Technology, Inc. in Longmont 1:00PM - 4:00PM

Oct. 23 - Family Night - Begins at 5:30PM at the Mormon Church on So. Boulder Rd.

Your HT and It's Power Supply

Most HT's give you several options as to how you power them: a battery pack using alkaline cells; a battery pack using rechargeable Ni-Cad cells; or an external power source. In addition to these choices you may be able to choose from battery packs with different voltages. Quite frequently when we radio amateurs talk about the differences between the power sources, we tend to focus on cost and operating lifetime before the battery pack must be replaced or recharged. But there's another consideration that is less discussed and that's power output.

Even if the power sources are nominally the same voltage, there's bound to be some difference. As an example, alkaline cells have a nominal cell voltage of about 1.5 volts while Ni-Cads have a nominal cell voltage of about 1.2 volts. And when you start talking about battery packs with differing number of cells, external power sources and the like, the differences become even more significant. Intuitively, as you change the voltage fed to your HT, you'd expect the power output to change. At the extreme, if you dropped the supply voltage to zero, you'd expect the power output to drop to zero also, wouldn't you? Let's examine a less drastic case though. Suppose you increased the supply voltage by 20%, how much would you expect the HT's power output to increase by? 5%, 10% maybe even 20%? Wrong! For a supply voltage increase of 20%, most HTs will increase their output power by about 40%! So for the nominal voltages given above, if you replaced the alkaline cells in your battery pack with Ni-Cad cells, you should see your output power decrease by about 36%!

What causes this large change in power output? Well there are two basic reasons. The first is that most HT output stages are unregulated. While your base station transceiver will have a regulated power supply, an automatic level control (ALC) and probably sensing circuits to adjust power level as a function of SWR or mode (AM, FM, CW or SSB) your HT doesn't have these. As the supply voltage to the HT output stage increases, the RF voltage the output stage delivers to the load increases by about the same amount. And in a linear circuit, power is equal to W = E2 x R. So since the load imposed by the antenna (R) stays constant, as the voltage (E) increases (or decreases) by some amount, then the power level increases (or decreases) as the square of that amount. Back to the example in the previous paragraph, as you increase the supply voltage by 20%, then the power increases by 1.2 x 1.2 = 1.41, or an increase of 41%. In the second example as you switch from alkaline cells to Ni-Cad cells, your supply voltage drops by 1.2/1.5 = 0.8, and your power decreases by 0.8 x 0.8 = 0.64, a 36% decrease. For a real-life example, look at Figure 1 where one of the club members measured the power output of his Yaesu FT-50R HT as a function of supply voltage.

So if you're in a marginal situation, consider the difference in performance that a slight change in your HT's supply voltage can cause. The example above where you reduce your power level by 36% is equivalent to about a -2 dB change - enough to make a difference in some situations.

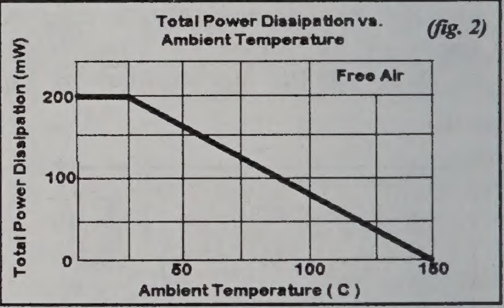
And that brings us to the second part of the article. If your HT's power output is so sensitive to supply voltage, why not just jack up the supply voltage and turn your milliwatt HT into a multiwatt HT? Well the answer is that you can do this to a certain degree, but only if you know what you're doing. At some point you're going to overstress your HT and turn your milliwatt HT into a piece of junk instead of a multiwatt HT. So how do you know what your HT's limits are? Well, the output stage in your HT is probably temperature limited as opposed to voltage stress limited. That is, you're much more likely to blow your output stage because you ran it too hot than because you applied too much voltage to it.

Most manufacturers build about a 100% safety margin into their HT's output stage. That means that a HT that's rated for 1 watt could probably handle 2 watts without too much risk. And a 300mW HT could be boosted to 600 mW. But be careful, your HT's safety margin is temperature sensitive. As the temperature of the HT's output stage increases, it's safety margin decreases. Take a look at Figure 2, which is a derating curve for a typical epitaxial UHF transistor. This device is rated for power dissipation of 200 mW - but only at temperatures below 25 Degrees C. As the temperature rises above 25 Degrees C, the dissipation decreases, falling to 100 mW at about 88 Degrees C.

For those of you not fluent in the metric system, 25 Degrees C = 77 Degrees F (room temperature), while 88 Degrees C = 190 Degrees F. "190 Degrees F", you'll say, "That's close to the boiling point of water. My HT could never get that warm!" Oh yeah? Leave your HT in its nice black case out in the summer sun for a couple of hours and see how warm the case gets. The point is that your HT's power safety margin decreases decreases rapidly at higher temperatures. Take an HT that's been warmed by the summer sun, and try to "push" it's power output, and you're likely to wind up with a dead HT.

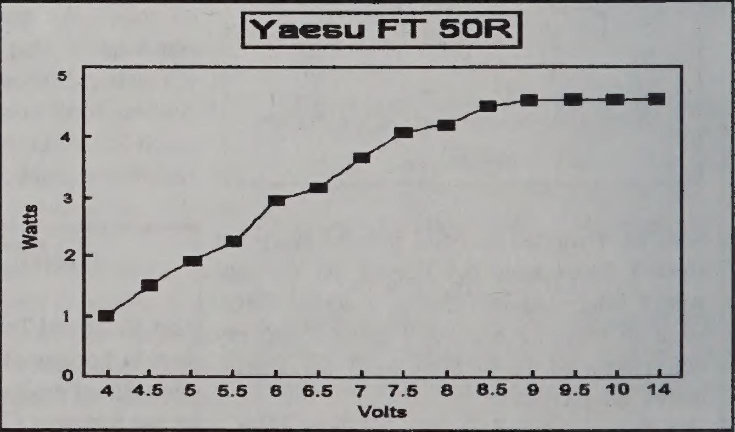
So that's a quick primer on HTs and supply voltage. Voltage affect's your HT's performance more than you might suspect. And if you try to increase power output by "pushing" the supply voltage, watch out for temperature.

From the August/September issue of "The Longwire", the newsletter of the Liverpool (NY) Amateur Repeater Club.



(fig. 2)

Volts	Watts
4	1
4.5	1.5
5	1.9
5.5	2.2
6	2.9
6.5	3.1
7	3.6
7.5	4
8	4.1
8.5	4.4
9	4.5
9.5	4.5
10	4.5
14	4.5



(Figure 1)

1998/99 BARC Meetings, Programs and Activities

Oct 20** - **QRP Home Brew Night - Bring along any Home Brewed QRP Ham Radio gear (including kits) for ***Show and Tell.*** Guest speaker tonight will be Rich, W0HEP, President of the **Colorado QRP Club**, W0CQC. Rich will tell us about the fun of running QRP, the equipment and the antennas to use plus, Rich will bring along some QRP rigs and accessories. Meeting at NIST, Rm. 1107.

Nov 17 - *Code Proficiency Test.* - How fast can you copy? Bring along your water-cooled pencils! The code proficiency test will be held at 6:30PM ***prior*** to the regular meeting. Certificates will be awarded. ***"Time Coordination Around The World And How It Effects Radio Communications".*** Plus information on the atomic clock and the research going on here at NIST for an even more accurate clock. Guest speaker will be John Lowe from NIST. Meeting will be held at NIST, Rm. 1107.

Dec 15 - ***"The Space Environment and it's Effect on Radio Communications"*** -
Presented by Dick Grubb, W0QM, Acting Director of the Space Environment Center. The Space Environment Center (SEC) provides real-time monitoring and forecasting of solar and geophysical events, conducts research in solar-terrestrial physics, and develops techniques for forecasting solar and geophysical disturbances. SEC's parent organization is NOAA. NIST, Rm 1107.

Jan, 1999 - ***BARC's annual holiday dinner. Site, date and time to be determined.***

Microscopic Vacuum Tube Developed

Ian Gill, ZL3TGK reported in a recent QNEWS report that a microscopic electron tube has successfully been constructed by a researcher in the Netherlands. The triode measures less than 5 micrometers across and is etched in silicon using the same process used to produce integrated circuits.

The tube uses a pin-point field emitter rather than a filament heater to generate its electron flow.

(from ANS Space News Sep 7, 1998)

("DF Antenna" cont. from page 3)

switch so that the null would be straight ahead and followed the null. I climbed over rocks and through bushes following the null. My dad and brother followed along behind. I knew immediately when I passed the fox because the null suddenly went away. When that happened I spun around, and looked down and I could see the fox only a couple of feet away. I had found it first!

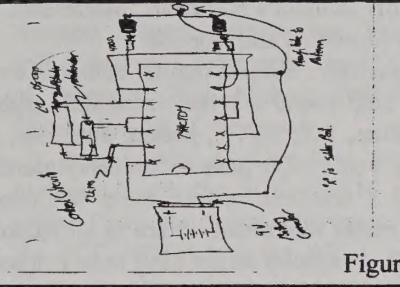


Figure 4

After we got back from the picnic, dad covered the circuits and coax with hot glue so the antenna would last longer. It's not as pretty as Rip's DF antenna but I made it myself and it works great!

Parts list:

1- 34" piece of 1x2 lumber
4- #6 x " slotted head sheet metal screws
8- #6 flat washers
4- 20" long pieces of heavy magnet wire or hanger wire
4- 2" pieces of solder wick
4- RF chokes (12 uH per schematic but we used a full tight single layer of 30 AWG magnet wire on 1M watt resistors.)
4- 1N4148 diodes (we used 1N914 diodes from Radio Shack)
2- coupling caps (680 pF per schematic but we tried 820 pF silver mica and .01 uF monolithic ceramic and both worked)
3- 470 ohm resistors
1- 22K resistor
1- .047 uF cap (.05 uf per the schematic but we found the .047 at Radio Shack)
1- 10K variable resistor (could use a fixed resistor)
1- 74HCT04 (from Radio Shack)
1- 9v Battery connector
1- Small double throw. Double pole switch
40ish- metal solder posts (wire-wrap pins or whatever)
1- 16" piece of RG-58 Coax
1- BNC connector for RG-58
1- 65" piece of thin coax (we used Beldon 8218)
Lots of Hot Glue but -- only after it tests out OK !

Biography

By Bill Pope ~W6TKE

Mary F. Ciaccia

Boulder, Colorado -- At the beginning of 1998, Mary became editor of "BARC's Bark" sponsored by the Boulder Amateur Radio Club. Mary is not a ham, but has been married to one for 36 years-certainly deserving of some sort of certificate or award in itself !

Although she has not edited a newsletter before, Mary has enjoyed taking courses in non-fiction writing. She has professional experience as a sales secretary and as VP of a small electronics company.

"BARC's Bark" is a monthly newsletter with a circulation of about 200. Her twelve 8-1/2" by 11" pages are loaded with club news, President's notes, technical articles, puzzles, Editor's Corner, Upcoming events, hamfests, VE exams, contests, etc. Monthly features include articles such as member's accounts of "How I became a ham" and a youth page devoted to the BARC-Jr., youth auxiliary club. Seventeen copies of the newsletter are set aside for the youth group each month.

Mary produces her newsletter on a 133 MHz Pentium II HP-7050 computer along with a HP-855C printer and 12X CD-ROM. She uses 'IMSI Master Publisher 97' software and an IBM Scanner/Copier.

Mary divides her leisure time between cooking, writing, collecting dolls and taking care of her diabetic cat, "Brat". She and Jack --WM0G, have four grown children and four grandchildren ages seven and under. Mary loves nature and likes to take videos and photos of wildlife and scenery. She enjoys traveling to scenic areas and historical sites.

From membership in ARNS, Mary hopes to find information from other newsletter editors to help her make "BARC's Bark" better and easier to publish.

[*from the September, 1998 issue of The Amateur Radio News Service (ARNS) Bulletin*]

Future Hamfests Calendar

October 15 thru 18
Microwave Update, 1998
Estes Park, CO

The annual Microwave Conference is being held at the Holiday Inn in Estes Park from Oct. 15 to Oct. 18, 1998. Technical talks and papers will be presented, equipment testing, an auction, door prizes, conference banquet are on order for this event. By reservation only. For more info call John Anderson, WD4MUO at (303) 258-3711 or Email him at: wd4muo@webaccess.net

Up-to-date conference information, technical program content and schedule details plus spouse activities can be found at the following address:

http://home.att.net/~n0ugy/MW_Update_98.html.

The 1998 Microwave Update conference chairman is Bill McCaa, K0RZ

CQ WW DX Contest

sponsored by CQ Magazine

Phone is 0000Z Oct 24 until 2400Z Oct 25.
CW is 0000Z Nov 29 to 2400Z Nov 30.
Exchange = R S (T) and CQ Zone.

Classes:
Single Operator All Band
Single Band/ Assisted
High Power/ Low Power = <100 W
QRP = <5 W
Multi-Single, (Multi-singles have a 10-minute rule).
Multi-Multi.

All classes may only have one transmitted signal per band. Work stations once per band. Team and club competition. North American stations score 2 pts/ QSO with stations in different countries on the same continent and 3 pts/ QSO with stations on different continents; stations in the same country may be worked for zone credit, but no points. Multipliers are CQ Zones and countries (DXCC +WAE). Final score is QSO points X multipliers. Awards. Send logs by Dec 1 (Jan 15 for CW) to:

CQ Magazine
25 Newbridge Rd
Hicksville, NY 11801
e-mail: *ssb@cqww.com; cw@cqww.com.*
On the Web see *http://cqww.com/cqww/*

("Minutes" cont. from page 1)

BARC General Meeting

Vice President's Report: Meeting programs are set through the end of the year; suggestions for 1999 programs should be sent to our program chairman, Jim/N0VLE. Also, a chairperson for our annual holiday dinner in January is needed.

Interference Committee: No significant interference noted. The person responsible for this summer's malicious interference has been identified and stopped.

Newsletter: Several regular columns would still help round out the newsletter, such as satellites, DX, RTTY, packet, antennas, etc. They would NOT have to run every month -- even a one-time article could be helpful. Remember that members are of all technical levels, so articles do not have to be extraordinarily complex. Volunteer authors should contact our editor, Mary Ciaccia (e-mail: WM0G@aol.com).

BARC Juniors: A Cushcraft R-7000 antenna -- still new, in the box -- has been donated to be sold by the Juniors as a fund-raiser. Contact Ellie/N0QCX for details. Enough frequent flyer miles to fly two Juniors to the 1999 Dayton HamVention have already been donated! BARC Jr. Saturday meetings will start again September 12.

BARCfest: Table reservations are WAY ahead of last year -- and we sold out last year! Tables are set; the concession stand is set; the VE Testing area is secured. But we still need many volunteers!

Old Business: Greg, WA0NDV reports that our 501-C.3 tax-exempt status is progressing. All the financial reports have been compiled for the application and once secured, an application will then be submitted for a postal permit.

Special Presentation: Jack/WM0G presented a plaque to Yardley Beers, W0JF, for his many contributions to BARC over the last several decades. Yardley announced that he and his wife Dorothy may -- or may not -- be moving back to New England in October. The decision is still pending.

The meeting adjourned to special celebratory cakes (courtesy of, and thanks to, Linda and Crystal/KI0NR) and to the evenings program, "How Trap Antennas Work" by Yardley Beers/W0JF.

Submitted by:
Randy Cassingham/K0RCC
BARC Secretary

FCC Renews Amateur Enforcement Emphasis

Things may be changing for the better on the Amateur Radio enforcement front. The FCC announced this week that all Amateur Radio-related enforcement investigation, evaluation, and processing has been transferred to the Compliance and Information Bureau. The change, effective September 1 but not announced until more than three weeks later, was made "by internal arrangement" between the CIB and the FCC's Wireless Telecommunications Bureau. The Wireless Bureau handles amateur licensing and, for the past several years, has coordinated enforcement with the CIB.

The FCC said the main objective of the change was to "facilitate the Commission's pursuit of compliance," especially in the area of resolving interference complaints, a hot-button issue within the amateur community.

"Amateur enforcement should have gotten more direct attention over the last few years," conceded Riley Hollingsworth, K4ZDH, the CIB's legal advisor for enforcement. "A lot of people think the FCC doesn't care."

Hollingsworth will be the FCC's point man in handling the complaints. He says FCC Chairman William Kennard "wants greater respect with respect to enforcement" at the FCC. Putting enforcement in the CIB's hands should mean "a much faster, more effective response," he said.

ARRL General Counsel Chris Imlay, W3KD, says he's "cautiously optimistic" that the change will improve the dismal amateur enforcement situation. "Now, CIB doesn't have to just gather evidence and forward it to another bureau," Imlay said. "It can act on it when it is ready. That's a good situation compared to where we were."

The FCC's public notice said the CIB staff now handles Amateur Radio enforcement matters "from initiation to resolution." That includes complaints, amateur testing issues, warnings, monetary penalties, revocation hearings, and "in extreme cases" equipment seizure and prosecution through the Department of Justice.

The Wireless Bureau continues to handle Amateur Radio licensing, including new applications and renewals, as well as all Amateur Radio policy and rulemaking matters. The change is expected to have no impact on the Amateur Auxiliary. Holling-

(see "Enforcement" cont. on page 10)

Colorado Amateur Radio License Exam Information

Testing in Northern Colorado

Boulder - The Boulder VE Team holds exams the **2nd Monday of each month** at 7 PM at the LDS (Mormon) Church on 701 W. South Boulder Rd. in Louisville. Contact Ellie Van Winkle, N0QCX at (303) 494-5578 for details.

Ft. Collins - Exams are held the **second Saturday of odd months** at 9 AM at Colorado State University, Lory Student Center, Room 206, Ft. Collins, CO. Contact Steve Henry at (970) 226-2817.

Longmont - The Longmont Amateur Radio Club VE Team holds exams the **fourth Saturday of every month** at 10 AM at the Boulder County Fairgrounds, Administration Bldg., Longmont, CO. Contact Earle Cate, N0ISB at (303) 776-9158 or Ray at (303) 776-2954.

Greeley - The Greeley VE Team holds exams on the **second Saturday of even months** at the University of Northern Colorado, 11th Ave. and 21st St., Ross Hall, Room 36, Greeley, CO 80631. Contact Andy Loomis at (970) 339-9836

Denver Metro Testing

The South Metro VE Team holds test sessions the **first Saturday of every month** at the Castlewood Public Library, 6739 S. Uinta St., the SW corner of Arapahoe Rd. and Uinta, 1/2 mile West of I-25. Amateur Exams are held at 9 AM, Commercial Exams are held at 1 PM. For more info call David Avery, N0HEQ, at (303)795-5718.

The Mile High VE Team holds exams the **second Saturday of every month** at 9 AM at St. Luke's Episcopal Church, 1270 Poplar St. Enter from the parking lot at 13th Ave. and Quebec St. For details call Glenn or Karen Schultz at (303) 366-0155.

The Denver Radio Club VE Team holds exams the **third Thursday of every month** at 6:30 PM at Tech America, 1550 So. Colorado Blvd. For more info call Gil Hart, K0BLU (303)467-6850

The W5YI VE Team holds periodic testing in Aurora on the **last Sunday of every month** at 10 AM. For more info call Lee Tingle, K0LT, at (303) 364-6783

Amateur Radio Licensing Restructuring FCC NPRM 98-183 and the ARRL Proposal

The Communication act of 1934 requires the FCC to perform a review of regulations every 2 years, biennially. The Amateur Radio Regulations are part of the review that is underway this year. In the period between the 1996 review, and the current review, the ARRL has studied the regulations and licensing structure. That review was used to draft a proposal to the FCC for Amateur License restructuring. This article will endeavor to summarize the FCC Notice of Proposed Rule Making (NPRM) and discuss the ARRL proposal.

It is important to note that the ARRL proposal is not the FCC NPRM and visa versa. There are major differences between the FCC NPRM and the ARRL proposal. There are also quite a few areas where the FCC is actively soliciting Amateur Radio Operator input.

The FCC no longer has any Amateur Radio Operators in the board. Therefore, the FCC is looking for the Amateur Community to speak up about the direction of the service. It is recommended that you read each of the proposals carefully and think about both then go to the FCC website and submit your comments! Enough comments regarding issues will make a difference. It cannot be stressed enough though, please make your well considered opinions known to the FCC as soon as possible!

Issues

There are five issues discussed by the FCC NPRM:

1. License Class restructuring
2. Volunteer Examiner opportunities (RM-9148)
3. Complaint procedures for malicious interference (RM-9150)
4. Telegraphy examination credit for examinees with disabilities (RM-9196)
5. Elimination of RACES

The 'RM' number in the above list is the ARRL petition and can be looked up on the ARRL web site.

License Class Restructuring

Both the ARRL and FCC agree that there is overlap in the Novice, technician, and Technician Plus licenses. The Novice was the traditional entry level to amateur radio prior to the invention of the no-code technician. Most people upgraded to either the Technician, or General (ignore the Conditional for now...) license within a few months. The original Novice was a short-term, non-renewable license.

Recently, there have been very few Novice class licenses issued. There were fewer than 1,000 applicants for the Novice license as compared to 21,500 Technician class applications last year. This is proof of what most Volunteer Examiners (VE) already know, many people simply get the Technician license as their entry class into Amateur Radio.

With this in mind, the following are the FCC's NPRM and the ARRL proposal to the FCC. They are similar but have some important differences.

FCC

The FCC proposes to collapse the Novice, Technician, and Technician Plus licenses into the Technician class. This means that all Hams who hold any of these licenses, with one exception that will be discussed in a moment, will become Technician class licensees. There will be a single examination to qualify for the 'no-code Tech' license.

The one exception to be noted are those who had received a Technician-Plus prior to March 21, 1987. Those Hams had taken then General written, element 3B, as part of their qualification. Those amateurs will be granted a General class license as part of the restructuring.

Note that the FCC has not set any definite requirements for Telegraphy (Morse Code) requirements. This point has been intentionally left open for comment. It is equally as important to note that no-code is not an option. The international Radio Regulations, agreed upon at the World Radiocommunications Conference, says that all amateurs must be able to demonstrate their ability to send and receive Morse Code in order to operate below 30 MHz. Of the amateurs polled, 41 percent favor a level of 10-13 words per minute as the maximum requirement as compared to 32 percent favor 20 WPM.

ARRL

The ARRL proposal eliminates the names of all Amateur Radio licenses in favor of a labeling scheme.

Present	Proposed
Amateur Extra	Class A
Advanced	Class B
General	Class C
Technician Plus	Class C
Novice	Class C
Technician	Class D

(See "Restructuring" cont. on page 8)

("Restructuring" cont. from page 7)

This proposal accomplishes much the same as the FCC proposal except that the Technician Plus, and Novice classes are collapsed into the Class C license. The ARRL proposal effectively reduces the requirements for HF access by eliminating the requirement for element 3B. The ARRL argues that this is appropriate since the Novice and Technician Plus have already qualified for entry level HF privileges.

Note! Neither the ARRL nor FCC proposal suggests what to do with the Novice band allocations. The FCC is looking for suggestions on how to best utilize the Novice suballocation.

Volunteer Examiner Opportunities

The current rules state that the General and Advanced Class Volunteer Examiners may only administer up to the Tech Plus license. The FCC and ARRL both suggest that the Advanced Class VE be able to administer the General Class exams.

Complaint Procedures

There exists an Amateur Auxiliary comprised of hams who have been trained by the FCC in detecting, improper radio transmissions. Those stations can issue advisory notices to the offending station and report those incidents to the FCC. The ARRL proposes that the Amateur Auxiliary is given the ability to document the violations and report them directly to the Chief Administrative Law Judge (CALJ). The CALJ will review the case to determine if there exists enough evidence to prove malicious interference. If so, the case will be referred to an Administrative Law Judge.

The FCC dismissed the ARRL proposal, above, since it violates statutory provisions governing the role of administrative law judges. However, the FCC does recognize that the amateur radio community may be able to help improve enforcement processes. For example, persons bringing forward complaints regarding interference may include a draft "Order to Show Cause" for cases seeking revocation or cease and desist orders. Comments are requested by the FCC.

Telegraphy Examination Credit

The FCC recognizes that the Morse code has a decreased level of importance today as opposed to the early days of Amateur Radio. The 1995 World Radio Conference (WRC) requires that code proficiency is needed for use of amateur bands below 30 MHz. That requirement was to be reviewed at the 1999 WRC but has since been delayed to the 2001 WRC. The Article S25 requirement does not, however, suggest any specific code speed.

The FCC is looking for suggestions regarding the Morse code requirement. Perhaps the reduction of levels of proficiency from the current three, 5, 13, and 20 WPM, to two, 5 and 12. Along with this change, the FCC suggests that there is a prescribed method of testing instead of allowing the VE to select a method. For example, all VE teams will administer the fill-in-the-blank exam or all will administer the 1 minute solid copy method. The current system, in particular the multiple-choice method, is controversial.

The FCC suggests that additional written test requirements should be levied to offset this change in communication techniques if Morse code requirements are reduced. For example, there should be more questions regarding digital communication techniques. The ARRL has also petitioned that the FCC make it more difficult to get a disability credit for the Morse code. It seems that the current system is being abused. The new ruling is requested to allow VE teams to require an applicant to attempt the telegraphy examination prior to accepting credit for a doctor's certification. In addition, the ARRL is requesting that the nature of the disability be disclosed. Of course, this will only matter if the higher-level code speeds are retained as part of the higher levels of license classes.

Elimination of RACES Station Licenses

The Radio Amateur Civil Emergency Service is a service, using Radio Amateurs, to provide emergency communication in times of local, regional, or national emergencies. New licenses have not been issued since 1980 when the FCC had to cut back its budget. The current licenses will not be renewed and, as a result, will be discontinued by attrition. This does not mean that RACES will be discontinued. Any Amateur Radio station that has been registered with a civil defense organization may act as a RACES station. This simply eliminates the special RACES licenses and those acting as RACES stations will do so using their Amateur Radio call signs.

Novice Band Allocations

The FCC is asking for comments on what to do with the current Novice band allocations. With the elimination of the Novice license, it is not clear what should be done with those allocations. The power limit will remain 200 Watts on those sub-allocations regardless of the use.

Summary

Both the FCC and ARRL propose to eliminate the Novice and Technician Plus licenses, Advances class VE's will be allowed to administer General Class operator examinations and RACES station licenses will be discontinued. The major difference between the ARRL proposal and the FCC NPRM is the 'grandfathering' of the Technician Plus license to either the General or Technician class license. The Morse code that is required access to HF bands will not be eliminated before the 2001 WRC – so get over it. The code speed may be changed to 5/12 WPM if the ARRL proposal is accepted. Lastly, the ARRL is requesting the FCC to make it more difficult to get a disability waiver for code credit.

Most importantly is, get your pencils in gear and make your comments and concerns known. Don't dicker about the elimination of the Morse code – that cannot be changed at this time. The important things to talk about are:

Which way do you want the Technician Plus licensees grandfathered?

What Morse code speed requirements do you think are appropriate? 5 and 12 WPM, or the current 5, 12, and 20? Maybe even just a 5 WPM requirement (not this author's choice, sorry)? Do you support the FCC selecting the code test format so that there is no choice by the VE teams (there is a lot of controversy on the current system)?

What would you like to happen to the current Novice band allocations? Perhaps give it to the Amateur Extras? Those bands are pretty quiet now, maybe you can think of some creative way to get some RF on those frequencies.

Submitted by:
Rich Weingarten, N0SH - Boulder VEC

The following chart is an attempt to summarize the above material. Information in parenthesis is the ARRL recommendation.

		Written Exam	**Morse Exam**
Amateur Extra	(Class A)	Most technical, similar to current 4B	20 wpm (12 wpm)
Advanced	(Class B)	Similar to current 4A	13 wpm (12 wpm)
General	(Class C)	Operational/technical questions on HF plus additional Digital Mode questions	13 wpm (5 wpm)
Technician	(Class D)	Operational/technical questions on VHF/UHF	none (none)
Technician +	(Class C)	Eliminated, but if exam was taken before 3/21/87 applicant will be "grandfathered" to General (Class C)	
Novice	(Class C)	Eliminated	

HAM TALK

By Bob Johnson, NQ5P

Please submit questions, comments, or puzzler solutions to Bob Johnson, NQ5P, preferably via e-mail (rjohnson@jceinc.com). Whoever first answers a puzzler will be recognized at the next club meeting.

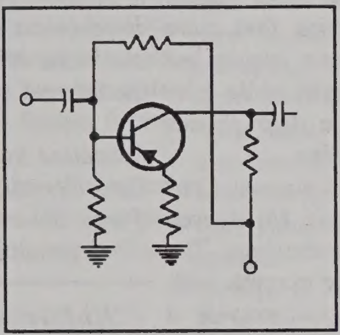
August Solution

Here are the three most offensive things you can say or do to another ham:

1. Don't reply to a QSL card with your own QSL card.
2. Send a QSL card with the right time and call of another HAM, but for a harmonic frequency and for a QSO you didn't have with him.
3. Key the repeater every 15 minutes, just to make sure its still working.

Here are three ingratiating things you can say or do to another ham:

1. Complement another HAM on his well-modulated and clearly understood voice and audio.
2. Offer to help another HAM study and prepare for upgrading his HAM license.
3. Volunteer to serve as an officer or Chairman in your local HAM club.



October Puzzler

In the last month's issue of B.A.R.C.'s Bark, there was a letter from the ARRL President, Rod Stafford, W6ROD. Rod challenged the Ham Community to take advantage of the more "modern" modes of communication, such as digital communication, and categorized the modes of CW, FM, and SSB as ancient. What are these modern modes, and how do they compare to the ancient modes?

Look Officious

Last week I carried my HT into Safeway while I rented a Rug Doctor. I noticed others looking at me while the radio blared Q codes and other Ham Lingo. I wondered what they thought about it. I supposed I looked rather officious, so I straightened my stance and spoke with authority to further the image. Really, now! How much authority do I need to rent a Rug Doctor!

This brought to mind possible numerous abuses of being a Ham, but I quickly regaled at such thoughts. Amateur Radio has been such a service to the community. Weather, parades, football games, traffic, races, accidents, crimes, are some of the things we report or facilitate. But cellular phones can be used too, or can they?

Cellular phones allow one-to-one communication. Amateur Radio allows for one-to-many communication. Is the information passed over Ham Radio more accurate, more trustworthy, because of the accountability to the larger Ham community, or because the information can be compared, contrasted, and completed by those other Hams joining in? (Only in very special or prearranged situations can phone information be broadcast, such as in conference calls) Is it more important, or required, to get the information out to many as quickly as possible? If so, then Ham Radio may be the answer.

What other services can we provide? Lets dream a bit. How about a laser counter counting racers crossing a checkpoint, connected to your HT and polled remotely. Fed to a computer, it could provide average speeds, well sort of. Better, give each racer a passive microwave transducer encoded with their number in their bib, and with a microwave polling device gather the information of each racer at each checkpoint. Transmit the data to the finish line computer. Cheaters detected (maybe), and splits and times immediately available for all racers at the finish, or on the web. OK, so maybe there's a few details to work out. How about temperature and wind sensors digitized and connected to your Radio, feeding information back to the weatherman's computer? I think it'd be neat to see temperature or wind isolines moving rather than cloud formations across the weather map. Keep thinking about it.

The DX'ing article I promised is still a ways off, but I've been gathering some good information.

73's - Bob

Gamma Ray Burst Briefly Affects Propagation

Insomniac hams in the Western US might have witnessed the effects of a startling cosmic event in the wee hours of August 27. And those hams' logbooks may hold information scientists want.

For five minutes, starting at 1022 UTC on August 27, HF propagation changed dramatically for the Western US and Pacific area. "It was as if night was briefly turned into day in the ionosphere," said Stanford professor Umran Inan, who observed the event. That means that your 40 or 80-meter DX QSO may have suddenly faded away, and, for a short time, you could have worked DX on 20 or 15 meters, or maybe even higher frequencies, in the middle of the night. On HF, Inan said the MUF should have risen to daytime levels for about five minutes. Inan said he'd very much like to hear if any hams noticed the effect.

The cause was a tremendous burst of gamma-rays and X-rays coming from a newly-discovered star type some 15,000 light-years away. The burst of radiation from the distant star was powerful enough to boost the level of ionization in Earth's upper atmosphere from nighttime to daytime levels.

This was the first time that such a change in Earth's environment has been attributed to an event so far away. The star that emitted the burst is a magnetar, a superdense neutron star with the most powerful magnetic field ever found in the universe, a magnetic field strong enough to rip atoms apart.

The gamma and X-ray burst "lit up" Earth's ionosphere. Along with the burst a cloud of subatomic particles spewed from the star's surface at nearly the speed of light. Those particles spiraled around the magnetic field lines and emitted microwaves.

At the National Science Foundation's Very Large Array (VLA) radio telescope in New Mexico, researchers detected the microwaves emitted by this cloud of particles at frequencies ranging from 1.4 to 8.4 GHz, and made a "movie" of the cloud as its radio emission brightened, then faded away.

The radiation burst affected the ionosphere over the Western US, but the Eastern part of the country was in shadow, so hams in the East would not have experienced the strange propagation effects. For more information, see the National Radio Astronomy Observatory's Web site at http://www.nrao.edu/pr/magnetar.html. --Dave Finley, N1IRZ

[from ARRL letter 10/2/98]

Implications of In-Vehicle Wireless Communications Studied

The extensive growth in the wireless communications Industry over the past 10 years has been accompanied by growing concern for the potential hazards of drivers using wireless communications devices from moving vehicles. Given the National Highway Traffic Safety Administration's (NHTSA) mission to save lives, prevent injuries and reduce traffic-accident-related health care and other economic costs, the agency has taken a particular interest in this issue.

The Transportation Department currently has a number of programs that focus on how best to use wireless technology in the vehicle to support efficient and effective emergency response (e.g., automatic collision notification, nationwide 911 access to emergency services from vehicles, in-vehicle information on traffic hazards and roadway conditions). In addition, the safety benefits of having a communications capability available within a vehicle are well documented and supported by both law enforcement and consumer safety groups, which frequently promote the use of these devices to ensure the security of the driver as well as to report congestion, crashes and drunk drivers.

Nevertheless, there has been increasing concern over the safety of using communication devices while driving, particularly within the public sector, and this has been reflected in the growing number of legislative initiatives on the state level that address the use of wireless communications in vehicles. In response, NHTSA has conducted a study to assess the current state of knowledge regarding the safety implications of using wireless communications while driving and to explore the broader safety issues associated with such use. Since the introduction of cellular telephones in 1983, there have been dramatic changes in the cellular industry. With a growth rate of about 40% per year, it is estimated that by the year 2000 there will likely be about 80 million cellular telephone users in the United States. Changes in the technology - from heavy, cumbersome, and expensive cellular telephones to inexpensive, miniature, handheld units smaller than a pack of cigarettes - have had a significant impact on when, where, and how Americans conduct their affairs, both business and personal. Societal pressures for increased efficiency, more leisure time,, and an improved sense of safety have placed wireless communications at the forefront of potential solutions for an increasingly mobile and technologically sophisticated populace.

While voice communication has been the primary focus of the cellular Industry, recent technological and societal trends in mobile communications and computer hardware and software (e.g., size, flexibility, connectivity), and the desire to work on-the-road have resulted in a move toward integration of technologies. This trend is such that cellular communications can now be the focal point of a truly "mobile office," including e-mail, fax, and Internet services in addition to telephone, voice mail, and paging capabilities from any location.

It was inevitable that the reduced size and cost, and increased functionality of the cellular telephone would find its use by drivers in vehicles increase dramatically. Indeed, time spent commuting, caught up in traffic, and just plain traveling can be more productive with this technology. In addition, the cellular telephone brings with it a sense of security for those concerned about traveling alone in unfamiliar areas or concerned about vehicle breakdown. It is not surprising that more than 85% of cellular telephone owners use their phones at least occasionally while driving, and more than 27% use their phones during half or more of their trips.

Exhibitors at the 1998 SAE Annual Congress and Exposition in Detroit, MI showed some of this state-of-the-art technology. The Delphi "Network Vehicle," for example with it's flat satellite antenna, would provide a direct link to the Internet, and allow high speed downloading of information. The Saab "Personal Productivity Vehicle," also showed how the power of the home or office computer might be brought into vehicles. These concept vehicles were mindful of the safety implications of wireless communications, suggesting that various functions be accessed through steering-wheel-mounted controls or through speech recognition systems.

One of the more interesting and potentially significant positive aspects of wireless communication in vehicles is Automatic Crash Notification (ACN). Vehicles equipped with recorders would collect crash impact data such as initial velocity, delta velocity and principal direction of impact could communicate that information along with the precise location of the crash, automatically, by impact activation of a cellular phone call to the emergency medical system. This would significantly improve emergency responses and thus the outcomes for many injured patients. GM's ONSTAR System and Ford's RESCU system represent early steps toward ACN, and already are on the market. NHTSA and Calspan Corp. are also conducting a demonstration project with a fleet of 1,000 specially equipped vehicles in the Buffalo, NY area. To realize the potential of such ACN systems, geographically consistent infrastructure needs to be developed, and so an alliance has been formed among nurses, EMS technicians, physicians, public safety groups, law enforcement, and others. ACN stands a good chance of becoming a reality in the near future.

The NHTSA study mentioned earlier, " An investigation of the safety implications of wireless communications in vehicles," is an interesting and timely review of the current state of knowledge in this field. It is clear there are both positive arid negative implications for safety, but it is also clear that more information and real-world experience is needed. Furthermore, this fast-changing technology, finding solutions to today's safety issues may not address those of the future. Recommendations are made that are intended to promote the evolution and use of wireless communications technology that is safe for use while driving. The report is located on the Internet at www.nhtsa.dot.gov.

Submitted By:
Gary Carroll, W0QN
[from an article in Automotive Engineering International - August, 1998 Issue]

("Enforcement" cont. from page 6)

sworth said the change could, in fact, mean that the FCC will work more closely and more effectively with amateur volunteers in dealing with enforcement issues.

Under the new arrangement, all amateur enforcement questions and complaints should be directed to:

Compliance and Information Bureau
Compliance Division
Attention: Amateur Complaints
1919 M St. - Mail Stop 1500E1
Washington, DC 20554

The FCC also has instituted an "Amateur Enforcement Line" at 202-418-1184. The automated system prompts callers to leave a name, a number, and a brief message. The CIB will return the call within the next business day.

[*from ARRL newsletter 10/2/98*]

>>> DXCC NEWS RELEASE <<<

Marquesas Islands & Austral Islands Added to DXCC List

The ARRL Awards Committee has accepted a recommendation of the ARRL DX Advisory Committee to add the Marquesas Islands and the Austral Islands to the DXCC List. The additions will be effective with contacts made beginning 23:59 UTC on 31 March, 1998 and after. The DXCC Desk will accept QSL cards for both the Marquesas and the Austral Islands beginning October 1, 1998. QSL cards received before that time will be returned without action.

[*from September 9, 1998 - 425 DX News*]

1999 New Orleans International DX Convention Dates Set

Following another successful convention last month, the Board of Directors of the New Orleans International DX Convention released the dates for the 8th Annual NOIDX Convention. The event next year will be held on August 27-28, 1999, at the Royal Sonesta Hotel on Bourbon and Royal Streets in the New Orleans French Quarter.

For the latest information on convention developments, check the Delta DX Association website at http://www.gnofn.org/~w5ru/

[via DX reflector at qth.net]

Proposed Postage Hikes Force QSL Service to Adjust

Starting in 1999, the ARRL Outgoing QSL Service will increase its fees from $4 to $6 a pound. ARRL Membership Services Manager Bill Kennamer, K5FUV, says the move is necessary to absorb the effects of a proposed postal rate increase and to bring the money-losing service a bit closer to a break-even basis. The rate for quantities of 10 cards will remain at $1.

Kennamer said the rate increase represents a cost of 4 cents per card (based on 150 cards per pound) to sort, package and mail QSL cards to the bureaus of the other IARU member societies. "Even with the increase, this still represents one of the better bargains in services to ARRL members," he said.

"The ARRL has subsidized the Outgoing QSL Service since the beginning, and continues to do so today," Kennamer explained. He said the League's handling and mailing costs now run more than $9 a pound, leaving a shortfall of more than $5 per pound at the current rates. The last rate increase, to $4 a pound, was three years ago.

[via ARRL Newsletter]

LMCC "Backing Off" 70 cm Band

According to the ARRL, an official of the American Automobile Association (AAA) says the Land Mobile Communications Council (LMCC) is backing away from its request that the FCC reallocate 420 to 430 MHz and 440 to 450 MHz from the federal government to the Private Mobile Radio Service.

A recent letter by the AAA's Gary Ruark said that strong support for ham radio from the Association of Public Safety Communications Officials and the National Telecommunications and Information Administration has caused the LMCC to back off its demand to reallocate the 70-cm subbands it had requested last spring. Because of this, Ruark said, "it is doubtful that the FCC would ever agree to that portion of the LMCC petition addressing sharing frequencies with amateur radio operators."

Last June, AAA asked the LMCC to file supplemental comments with the FCC to withdraw the request to share the 70-cm band with Amateur Radio. AAA is an LMCC member.

A copy of Ruark's letter is available on the ARRL Web page, at http://www.arrl.org.

[via ANS and the ARRL]

International Space Station Progress Report

Amateur Radio on the International Space Station is progressing well. The first station will have 2-meter voice and packet capability, using antennas designed and built by an Italian team and installed by the Russians. A German team is at work on an interim station that would add 70-cm capability plus a Digitalker. The US team is building a packet module, adapter module, the hand held radio and associated cables, as well as preparing a Safety Data Package required by NASA. The final ISS equipment list is still in the conceptual stages but probably will include all-mode capability from ten meters through 13 centimeters, including Amateur fast-scan television.

[via Amateur Radio Newsline]

16th AMSAT Annual Meeting and Space Symposium Set

The registration form and agenda for this fall's AMSAT Annual Meeting and Space Symposium now are available on the Web at http://pages.prodigy.com/DXHF93A.The symposium, set for October 16-18, 1998, at the Battlefield Inn, Vicksburg, Mississippi, offers a diversity of amateur radio satellite presentations. Among those on the program are:

* The History of the Amateur Radio Satellite Program, by Martin Davidoff, K2UBC.

* Antarctica and Amateur Radio, by Ron Ross, KE6JAB

*** Working Satellites From Over 100 Grid Squares, Chuck Duey, KI0AG**

* The Year 2000 Transition --Your PC and AMSAT Software, by Roy Welch, W0SL

* TRACKNET: An AMSAT Mobile Satellite System, by Bob Bruninga, WB4APR

* Development of Yet Another Housekeeping Unit for Phase 3D, by James Miller, G3RUH

* SETI on the Cheap: Affording the Ultimate DX, by Paul Shuch, N6TX

* An EZ-Sat Update, by Fred Winter, N2XOU and Ken Ernandes, N2WWD

* JAWSAT Update, by Randolph Kohlwey, N7SFI

* International Space Station Status, by Will Marchant, KC6RCL

* The P3D Spacecraft Thermal Design, Dick Jansson, WD4FAB and Keith Baker, KB1SF

Other activities planned during the symposium include sessions devoted to a Phase 3D update and an introduction to Amateur Radio satellites by QST Managing Editor and satellite buff Steve Ford, WB8IMY. The Friday evening beginner's session on Amateur Radio satellites will be open to the public. The Saturday banquet speaker will be ARRL Vice President Joel Harrison, W5ZN.

Following the Area Coordinators' breakfast Sunday morning, participants will take a field trip to the US Army Engineers Waterways Experiment Station where--among other things--they will learn about using satellites to track sea turtles.

Transportation is available between the Jackson International Airport and the Battlefield Inn in Vicksburg. The Jackson Amateur Radio Club will host an AMSAT Welcome Table at the Jackson International Airport on Thursday and Friday, October 15 and 16, to assist with transportation.

For more information, contact, Eddie Pettis, N5JGK, e-mail n5jgk@amsat.org.

[from AMSAT News Service]

1998 Boulder Amateur Radio Club Membership / Renewal Application

The **BARC** Membership year is from January 1 to December 31.
Please supply all the information requested below :

Date: ____________ Call: ____________
Name: ______________________________
Other Family Member Name: ______________ Call: ________
Address: ____________________________
City & State: ________________________
Zip Code +4: ____________
Phone: ____________ E-Mail: ____________

Membership type: _______ {R, C, A}
License Class: _____ {E,A,G,T+,T,N or blank}
Year Licensed: ________ (Year first license was granted)
ARRL Member: _____ (Y or N) License Expires: ________

***REMINDER**: **BARC** membership dues are payable at the first of the year. If you are a **BARC Jr.** whose family does **NOT** belong to **BARC** (not part of a family membership), then your yearly dues are also due January 1st. If you want to pay now, your dues will be paid through December, 1998.*

Membership Types:

R (Regular) -- **$ 18 / year**
Note: Family members are included in regular memberships in the same household.

C (Child) -- **$ 6 / year***
Child memberships are for children 17 years of age or younger whose parents are **not members of B.A.R.C.*

A (Associate) -- **$ 18 / year**

Make checks payable to B.A.R.C.
and Mail to :
B.A.R.C. Membership
P.O. Box 17362
Boulder, CO 80308-3362

B.A.R.C.'s Bark

Boulder Amateur Radio Club
P.O. Box 17362
Boulder, CO 80308-3362

Oct 20 - ***QRP Home Brew Night*** - Bring along any Home Brewed QRP Ham Radio gear (including kits) for ***Show and Tell.*** Guest speaker tonight will be Rich, W0HEP, President of the **Colorado QRP Club**, W0CQC. Meeting at NIST, Rm. 1107

Amateur Radio - A National Policy - Public Law # 103-408